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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,141	11/30/2005	Norimasa Fujimoto	5703-000013/US/NP	9542
27572 7590 04/29/2008 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER GAMI, TEJAL	
			ART UNIT 2121	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,141	Applicant(s) FUJIMOTO ET AL.	
	Examiner TEJAL J. GAMI	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12, 41, 42 and 44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-12, 41, 42 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/25/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to an ELECTION/RESTRICTION entered January 11, 2008 for the patent application 10/559141. Applicant elected claims 7-12, 41, 42, and 44, drawn to an automatic introduction apparatus.

Election/Restrictions

2. Applicant's election without traverse of claims 7-12, 41, 42, and 44 in the reply filed on January 11, 2008 is acknowledged.

Status of Claims

3. Claims 7-12, 41, 42, and 44 are now pending in this office action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 7-12, 41, 42, and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by McWilliams (U.S. Publication Number: 2004/0233521).

As to independent claim 7, McWilliams discloses an automatic introduction apparatus (e.g., automatic telescope 10) (see Paragraph [0022]) for automatically introducing a target celestial object (e.g., star or other celestial object) (see Paragraph [0022]) by controlling a rotation of an astronomical telescope around at least two axes (e.g., altitude angle and azimuth angle) (see Paragraph [0024]), said apparatus being characterized in comprising:

an image-capturing means for taking an image of celestial object (e.g., image from the vision device) (see Paragraph [0027]);

a celestial object database (e.g., database 22) (see Abstract); and

a celestial object identification means for identifying a celestial object whose image has been captured by said image-capturing means (e.g., identified by processor 24) (see Paragraph [0032]), by comparing said image of celestial object captured by said image-capturing means with a set of celestial object information in said celestial object database (e.g., compares with database 22) (see Paragraph [0045]), wherein an alignment process for defining a set of coordinate transformation information of a coordinate system in said astronomical telescope relative to a celestial coordinate system is executed based on a set of position information for said celestial object identified by said celestial object identification means (e.g., processor 24 instructs the drive mechanism to align) (see Paragraph [0046]).

As to independent claim 10, McWilliams discloses an automatic introduction apparatus (e.g., automatic telescope 10) (see Paragraph [0022]) for automatically introducing a target celestial object (e.g., star or other celestial object) (see Paragraph

[0022]) by controlling a rotation of an astronomical telescope around at least two axes (e.g., altitude angle and azimuth angle) (see Paragraph [0024]), said apparatus being characterized in comprising:

an image-capturing means for capturing an image of a celestial object (e.g., image from the vision device) (see Paragraph [0027]);

a celestial object database (e.g., database 22) (see Abstract); and

a celestial object identification means for identifying a celestial object whose image has been captured by said image-capturing means (e.g., identified by processor 24) (see Paragraph [0032]), by comparing said image of celestial object captured by said image-capturing means with a set of celestial object information in said celestial object database (e.g., compares with database 22) (see Paragraph [0045]), wherein said astronomical telescope is configured to be rotationally controllable so as to introduce said target celestial object into a center of a field of said astronomical telescope based on a set of position information for said celestial object identified by said celestial object identification means (e.g., the processor 24 may use the vision signal to fine tune the drive mechanism 18 in order to substantially center the specified star within the tube's 12 field of view) (see Paragraph [0043] and [0046]).

As to dependent claim 8, McWilliams teaches an automatic introduction apparatus in accordance with claim 7 (e.g., automatic telescope 10) (see Paragraph [0022]), wherein said image-capturing means is adapted to capture an image at a plurality of focal distances (e.g., automatic focus and automatic zoom) (see Paragraph

[0023]), and said alignment process (e.g., processor 24 instructs the drive mechanism to align) (see Paragraph [0046]) includes the steps of:

capturing an image of a celestial object under a condition where said image-capturing means has been set at a focal distance for a wide angle side (e.g., wide-angle view) (see Paragraph [0040]);

identifying a celestial object in said celestial object image captured at said wide angle side (e.g., sense several bright stars) (see Paragraph [0038]);

correcting said coordinate transformation information based on the position information of said identified celestial object (e.g., drive mechanism 18) (see Paragraph [0038]);

selecting a fundamental celestial object from said celestial object image captured at the wide angle side (e.g., displays the image from the vision device 30) (see Paragraph [0038]);

controlling a rotation of said astronomical telescope so that said fundamental celestial object is introduced into a center of field in the captured image (e.g., the processor 24 may use the vision signal to fine tune the drive mechanism 18 in order to substantially center the specified star within the tube's 12 field of view) (see Paragraph [0043] and [0046]);

capturing an image of a celestial object under a condition where said image-capturing means has been shifted to a focal distance for a more telescopic side (e.g., view the specified star) (see Paragraph [0046]);

identifying a celestial object in said celestial object image captured at the more telescopic side (e.g., identified by processor 24) (see Paragraph [0032]);

correcting said coordinate transformation information based on the set of position information of said identified celestial object (e.g., align the tube) (see Paragraph [0043]); and

setting said image-capturing means sequentially at different focal distances for the more telescopic side and repeating above respective steps until the fundamental celestial object is introduced into a center of field in the captured image with a sufficient precision (e.g., telescope 10 repeats steps) (see Paragraph [0045]).

As to dependent claim 9, McWilliams teaches an automatic introduction apparatus in accordance with claim 8 (e.g., automatic telescope 10) (see Paragraph [0022]), in which said alignment process is executed by using at least two fundamental celestial objects (e.g., alignment with a first bright star to a second bright star) (see Abstract).

As to dependent claim 11, McWilliams teaches an automatic introduction apparatus in accordance with claim 10 (e.g., automatic telescope 10) (see Paragraph [0022]), wherein said image-capturing means is adapted to capture an image at a plurality of focal distances (e.g., automatic focus and automatic zoom) (see Paragraph [0023]), and said automatically introducing process includes the steps of:

introducing said target celestial object automatically (e.g., automatic telescope 10) (see Paragraph [0022]);

capturing an image of a celestial object under a condition where said image-capturing means has been set to a predetermined focal distance (e.g., manual focus and zoom functions) (see Paragraph [0023]);

identifying a celestial object from said celestial object image captured by said image-capturing means (e.g., identified by processor 24) (see Paragraph [0032]);

controlling said astronomical telescope to rotate so that said target celestial object is introduced into a center of field in the captured image based on the set of position information for said identified celestial object (e.g., the processor 24 may use the vision signal to fine tune the drive mechanism 18 in order to substantially center the specified star within the tube's 12 field of view) (see Paragraph [0043] and [0046]); and

setting said image-capturing means sequentially at different focal distances for the more telescopic side and repeating the above respective steps until said target celestial object is introduced into the center of a field in the captured image with a sufficient precision (e.g., telescope 10 repeats steps) (see Paragraph [0045]).

As to dependent claim 12, McWilliams teaches an automatic introduction apparatus in accordance with claim 10 (e.g., automatic telescope 10) (see Paragraph [0022]), in which said celestial object identification means has a function to extract an area including a celestial object that has not been image-captured based on said celestial object images captured by said image-capturing means and to determine whether said target celestial object exists in said area (e.g., identified by processor 24) (see Paragraph [0032]).

As to dependent claim 41, McWilliams teaches an automatic introduction apparatus in accordance with claim 7 (e.g., automatic telescope 10) (see Paragraph [0022]), in which said celestial object database is renewed based on a set of celestial object information obtained (e.g., stored in database 22) (see Paragraph [0045]) via an electric communication means (e.g., communicate) (see Paragraph [0037]).

As to dependent claim 42, McWilliams teaches an automatic introduction apparatus in accordance with claim 7 (e.g., automatic telescope 10) (see Paragraph [0022]), in which an initial parameter for said alignment process is established automatically based on a set of position information of a celestial object identified by said celestial object identification means (e.g., initializes the telescope 10) (see Paragraph [0045] and [0046]).

As to dependent claim 44, McWilliams teaches an automatic introduction apparatus in accordance with claim 10 (e.g., automatic telescope 10) (see Paragraph [0022]), in which said celestial object database is renewed based on a set of celestial object information obtained (e.g., stored in database 22) (see Paragraph [0045]) via an electric communication means (e.g., communicate) (see Paragraph [0037]).

Response to Arguments

6. Applicant's arguments filed November 05, 2007 are moot in light of new grounds of rejections.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bisque et al. (U.S. Patent Number: 7,313,763) teaches system for operating an astronomical observatory in real time using http.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Albert DeCady/

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Supervisory Patent Examiner
Tech Center 2100

/TJG/